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| 09/346,353      | 07/02/1999  | MARIE ANGELOPOULOS   | YO996-049BX         | 2281             |

7590 12/13/2006  
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EXAMINER

YOON, TAE H

|          |              |
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| ART UNIT | PAPER NUMBER |
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1714

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/346,353

Applicant(s)

ANGELOPOULOS ET AL.

Examiner

Tae H. Yoon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-11,14-16,20,22-25,40-42 and 47-56 is/are pending in the application.
- 4a) Of the above claim(s) 47-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-11,14-16,20,22-25 and 40-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

Again, the recited "Curve 5(a)", "Curve 5(b)" and "Curve 5(c)" in lines 1, 2 and 4 of page 8 is objected and "Figure 5(a)", "Figure 5(b)" and "Figure 5(c)" recited for drawings are suggested. **A proper amendment is needed**, and amendment added to the end of claims filed on July 24, 2006 without any mention to the specification is confusing and has no probative value. Also, note that no recitation for the claimed language is needed for the cancelled claim (for example, "Claim 2 (cancelled)" is sufficient)

Newly submitted claims 54-56 (as well as the previously submitted claims 47-53) directed to an invention that is non-elected. See the page 2 of the office action mailed on May 4, 2000 in which the election of a plasticizer for the additive is stated. Also, the recited combination of particular polymers, solvent and additives would be a subcombination with respect to the examined claim (combination). Thus, it would have been restricted if presented earlier. Note that this is a RCE drawn to the examined claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 47-56 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is NEW MATTER rejection since the recited method of claim 11 does not have support in the originally filed specification. The examiner interprets that the recited "polyaniline crystalline material" being polyaniline with 100% crystallinity.

Applicant failed to address the rejection

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-6, 11, 15, 16, 20, 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims are incomplete and indefinite absent doping process since the isotropic electrical conductivity cannot be obtained without a doping step. The bridging paragraph of page 12 to page 13 and specific examples on pages 15-17 teach "doping thereof for the isotropic electrical conductivity".

The recited method of claim 11 is indefinite absent a step of how to form crystalline material. A method claim must have at least one particular step. Also, the recited isotropic electrical conductivity requires doping.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Han (US 5,171,478) or Ikkala et al (US 5,520,852).

In the event the recited polyaniline crystalline material is a partially crystalline, the following rejection is maintained.

The claim does not recite removing additive, however, the instant specification (the bridging paragraph of page 12 to page 13 and specific examples on pages 15-17) shows said solvent, additive and removing solvent in order to obtain at least one crystal grain, and doping thereof for the isotropic electrical conductivity. Thus, the utilization of

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the same solvent, additive and polymer and removing or partly removing said solvent in the prior art inherently meets the instant properties. One can be his/her own lexicographer and thus a method utilizing a composition using the same components meets the invention. Applicant failed to show that the polyaniline of the cited art does not have an isotropic electrical conductivity. The example 6 of Han shows the use of a mixture of NMP and tripropylamine, and said **NMP is N-methyl pyrrolidinone** (see line 3 of the instant page 11) contrary to applicant's assertion.

Ikkala et al teach a polyaniline having a **crystalline structure** at col. 18, lines 48-56, and said polyaniline would possess the isotropic electrical conductivity.

**The recitation of inherent properties for the known method does not warrant a patent.**

**Applicant's Exhibit A (pages 12-15 of specification) shows the use of poly-co-dimethyl propylamine siloxane only and nothing else such as the instant plasticizers of claim 4. Said use of poly-co-dimethyl propylamine siloxane was patented in the parent case as US Pat. 5,969,024.**

**Applicant asserts that there is no removal of solvent in example 6 of Han, but such assertion has no probative value since said example 6 teaches fiber spun and air-drying. Note that instant method reciting "comprising" permits presence of other steps. Various products including a film are taught at col. 5, lines 1-23, and thus a film from said example 6 would be an inherent practice.**

Claims 1, 3-7, 9-11, 14-16, 20, 22-25 and 40-42 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Han (US 5,171,478).

Rejection is maintained for reason of record and following.

Han teaches removal of solvent at col. 22, line 55 to col. 23, line 6 contrary to applicant's assertion. Again, **the utilization of the same solvent, additive and polymer and removing or partly removing said solvent in the prior art inherently meets the instant properties (--- to achieve said crystalline state thereby comprising a polycrystalline material and a degree of amorphous regions ---) and applicant failed to show otherwise. Various products including a film are taught at col. 5, lines 1-23.**

With respect to applicant's assertion regarding the Board's Appeal decision and example 6 of Han, Han clearly teaches a mixture of NMP and tripropylamine in example 6 and said NMP and tripropylamine meet the instant solvent and additive. One can be his/her own lexicographer and thus whether Han recites said NMP as a plasticizer or a solvent is immaterial.

**The recitation of inherent properties for the known method does not warrant a patent.**

Claims 1, 3-7, 9-11, 14-16, 20, 22-25 and 40-42 are rejected under 35 U.S.C. 103(a) as obvious over Han (US 5,171,478) in view of Cao et al (US 5,232,631).

Rejection is maintained for reason of record and following.

Stretching of film of Han in order to obtain an oriented film is an obvious practice as taught by Cao et al.

Claims 1, 3, 5-7, 9, 11, 14-16, 20, 22, 24, 25 and 40-42 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Elsenbaumer (US 4,983,322).

Rejection is maintained for reason of record.

The examiner repeats following; the instant figure 5(a) is based on polyaniline processed with NMP. There is no description whether the oxidizing dopant used in Elsenbaumer is utilized or not for said figure 5(a), and thus applicant's assertion the polyaniline film of Elsenbaumer is amorphous has no probative value. Also, doping of the amorphous polyaniline film with aqueous hydrochloric acid (or with any other dopant) would not change the morphology of the solid film. Such method is different from the method taught by Elsenbaumer, solution process, which would inherently yield the instant properties, and applicant failed to show otherwise.

Applicant considers plasticizers and diluents being an oxidant, and thus the same plasticizers and diluents taught by Elsenbaumer would be an oxidant also or the same oxidant (or dopant) taught by Elsenbaumer would meet the instant plasticizers and diluents.

**Contrary to applicant's assertion, Elsenbaumer teaches the use of solvents at col. 8 and col. 9, line 62 to col. 10, line 23. The recitation of inherent properties for the known method does not warrant a patent. Contrary to applicant's**



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**assertion, no particular dopant (oxidant) is claimed in the invention, and thus the dopant of Elsenbaumer meets the invention. There is no unexpected result overcoming an anticipation rejection. The instant claim 1 does not recites any doping step, and claim 7 recites doping the solution of the first material. Thus, the solution process taught by Elsenbaumer meets the invention contrary to applicant's assertion.**

**Note that the use of inherency is proper when a combination of 102(b)/103(a) is used. Besides, Elsenbaumer teaches the same solution process, and thus the final product would have the same properties and morphology and applicant failed to show otherwise.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tae H Yoon  
Primary Examiner  
Art Unit 1714

THY/November 27, 2006